

WASHINGTON STATE DEPARTMENT OF HEALTH OFFICE OF FOOD SAFETY AND SHELLFISH PROGRAMS

ANNUAL GROWING AREA REVIEW

PREPARED BY: Donald Melvin, Environmental Specialist

AREA: Nemah River

YEAR ENDING: December 31, 2005

CLASSIFICATION: Approved

ACTIVITIES IN THE GROWING AREA IN 2005:

Samples were collected from each station in the growing area 6 times during the year using the systematic random sampling method.

ANALYTICAL RESULTS OF WATER SAMPLES:

Table #1 summarizes the results of all samples collected from the area. This summary shows that all stations in the area pass the NSSP water quality standard with the exception of station #145. Station #145 currently has an estimated 90th percentile of 46 and fails the NSSP water quality standard for an Approved classification. Station #144 is threatened and station #139 is of concern due to elevated bacteria levels. Individual sample results for stations #144 and #145 are shown in Tables 2 and 3 respectively.

CHANGE IN ACTUAL POLLUTION SOURCES THAT IMPACT THE GROWING AREA:

Water quality in portions of the area has been deteriorating indicating the presence of active sources of bacterial contamination. A survey of the uplands near the South Nemah River by DOH identified cattle ranching practices as a potential source of pollution.

CLASSIFICATION STATUS:

- ☐ Well within the classification standards
- ☐ Meets standards but some concerns
- ☐ Meets standards but threatened with a downgrade in classification
- ☒ Fails to meet classification standards

REMARKS AND RECOMMENDATIONS:

Table #1 shows that all stations except for station #145 meet the NSSP water quality standards for approved classification. An evaluation of shoreline conditions and weather and water quality data should be undertaken to determine the appropriate classification for the area.

TABLE 1**SUMMARY OF MARINE WATER DATA (SRS)**Growing Area: **NEMAH RIVER**Classification: **Approved**From **02/08/2001** To **11/30/2005****FECAL COLIFORM ORGANISMS/100 ML**

Station Number	Classification	Number of Samples	Range	Geometric Mean	Est. 90th Percentile	Meets Std.
139	Approved	30	1.7 - 130.0	3.8	22.0	Yes
140	Approved	30	1.7 - 79.0	3.3	16.0	Yes
141	Approved	30	1.7 - 49.0	2.9	11.0	Yes
142	Approved	30	1.7 - 33.0	2.3	5.0	Yes
143	Approved	30	1.7 - 7.8	2.1	3.0	Yes
144	Approved	30	1.7 - 350.0	4.8	32.0	Yes
145	Approved	30	1.7 - 350.0	5.4	46.0	No
146	Approved	30	1.7 - 23.0	2.2	5.0	Yes

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml and an estimate of the 90th percentile not greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

Table 2**SUMMARY OF SHELLFISH GROWING AREAS
WATER QUALITY STUDY RESULTS**Growing Area: **NEMAH RIVER**Sampling Station Number: **144**Classification: **Approved**

Sample Date	Sample Time	Tide	Fcoli/100ml	Temperature	Salinity
02/08/2001	10:31	Flood	1.7	7	18
03/21/2001	10:35	Flood	1.7	10	24
05/23/2001	12:48	Flood	33	15	24
08/01/2001	10:24	Flood	1.7	16	30
10/18/2001	13:12	Flood	2	13	28
12/05/2001	10:37	Ebb	33	6	4
02/27/2002	10:13	Flood	1.7	7	16
04/10/2002	11:50	Flood	1.8	11	20
05/08/2002	10:24	Flood	1.7	11	20
08/21/2002	11:56	Flood	1.7	16	30
10/17/2002	12:48	Flood	1.7	13	30
12/04/2002	10:48	Flood	4.5	10	25
02/12/2003	09:57	Ebb	1.8	8	15
04/16/2003	11:03	Flood	22	10	10
05/14/2003	10:44	Flood	1.7	13	18
08/27/2003	12:24	Flood	7.8	18	30
10/08/2003	13:41	Flood	1.7	14	30
12/03/2003	11:06	Ebb	22	7	10
02/04/2004	10:43	Flood	1.7	6	16
03/04/2004	10:42	Flood	2	8	20
05/05/2004	11:41	Flood	350	14	20
07/14/2004	11:34	Flood	2	19	28
09/15/2004	11:01	Flood	140	16	20
12/22/2004	10:23	Flood	4.5	8	15
02/24/2005	10:15	Flood	2	7	22
04/20/2005	11:00	Flood	1.7	11	20
06/22/2005	12:37	Flood	17	17	24
08/04/2005	11:51	Flood	1.7	18	30
10/18/2005	10:48	Flood	33	13	28
11/30/2005	10:41	Flood	4.5	6	20

Number of Samples: 30**Geometric Mean: 4.8****Range: 1.7 - 350****Estimated 90th Percentile: 32**

Table 3**SUMMARY OF SHELLFISH GROWING AREAS
WATER QUALITY STUDY RESULTS**Growing Area: **NEMAH RIVER**Sampling Station Number: **145**Classification: **Approved**

Sample Date	Sample Time	Tide	Fcoli/100ml	Temperature	Salinity
02/08/2001	10:34	Flood	2	7	19
03/21/2001	10:38	Flood	2	10	24
05/23/2001	12:50	Flood	2	15	24
08/01/2001	10:26	Flood	6.8	16	30
10/18/2001	13:15	Flood	1.7	13	28
12/05/2001	10:40	Ebb	46	6	2
02/27/2002	10:15	Flood	2	7	16
04/10/2002	11:53	Flood	1.7	11	20
05/08/2002	10:27	Flood	2	11	20
08/21/2002	11:58	Flood	4.5	16	30
10/17/2002	12:51	Ebb	1.7	13	30
12/04/2002	10:52	Flood	6.8	10	25
02/12/2003	10:00	Ebb	2	8	15
04/16/2003	11:06	Flood	2	10	15
05/14/2003	10:46	Flood	2	13	20
08/27/2003	12:28	Flood	2	18	30
10/08/2003	13:44	Flood	11	14	30
12/03/2003	11:10	Ebb	33	7	5
02/04/2004	10:46	Flood	2	6	15
03/04/2004	10:45	Flood	1.7	8	20
05/05/2004	11:45	Flood	350	14	16
07/14/2004	11:37	Flood	2	19	28
09/15/2004	11:05	Flood	350	15	15
12/22/2004	10:26	Flood	70	8	12
02/24/2005	10:17	Flood	1.7	6	22
04/20/2005	11:02	Flood	1.7	11	18
06/22/2005	12:39	Flood	33	17	24
08/04/2005	11:54	Flood	2	18	26
10/18/2005	10:51	Flood	79	13	28
11/30/2005	10:44	Flood	1.7	6	20

Number of Samples: 30

Geometric Mean: 5.4

Range: 1.7 - 350

Estimated 90th Percentile: 46

